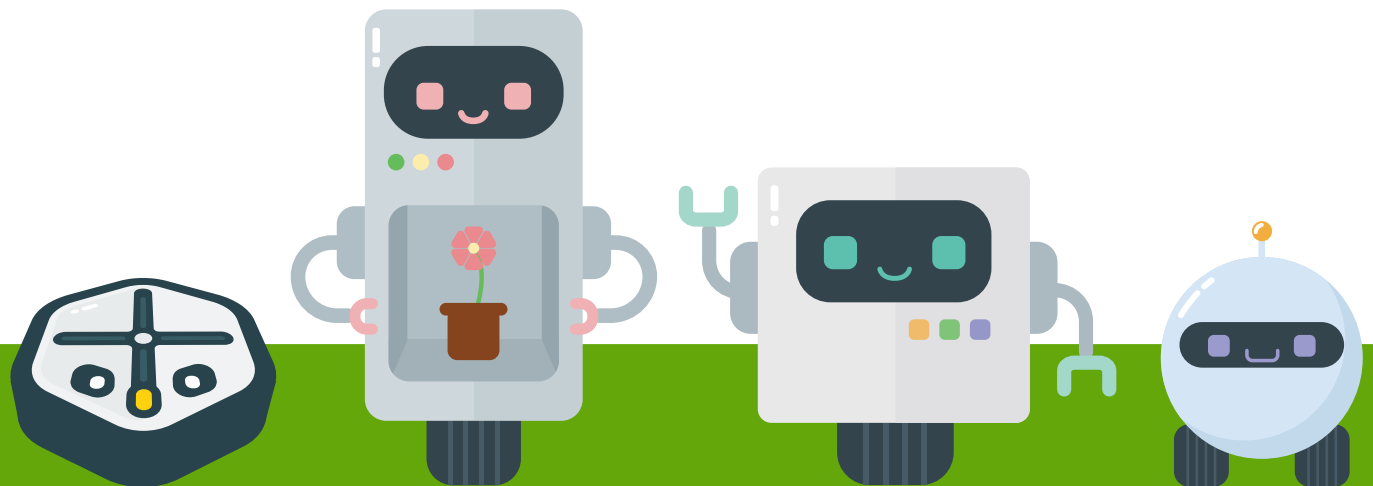


Robot
stem
Activity Book

irobot.com/STEM



Inspiring the Next Engineers and Scientists

What is STEM?

STEM is Science, Technology, Engineering, and Math:
All very important subjects that help you build robots!

This booklet is packed with all kinds of cool robot games and puzzles:

- Go on a scavenger hunt to find robots around you
- Color and design a robot puzzle
- Try a crossword puzzle, word search or maze
- Help Roomba® find its way home
- Write a silly story with a friend

iRobot STEM Program

iRobot is committed to building a future for STEM education in the United States. Our multi-faceted outreach program is a resource for students, parents and educators to share in our excitement for the robotics industry and get an inside look at what we do here.

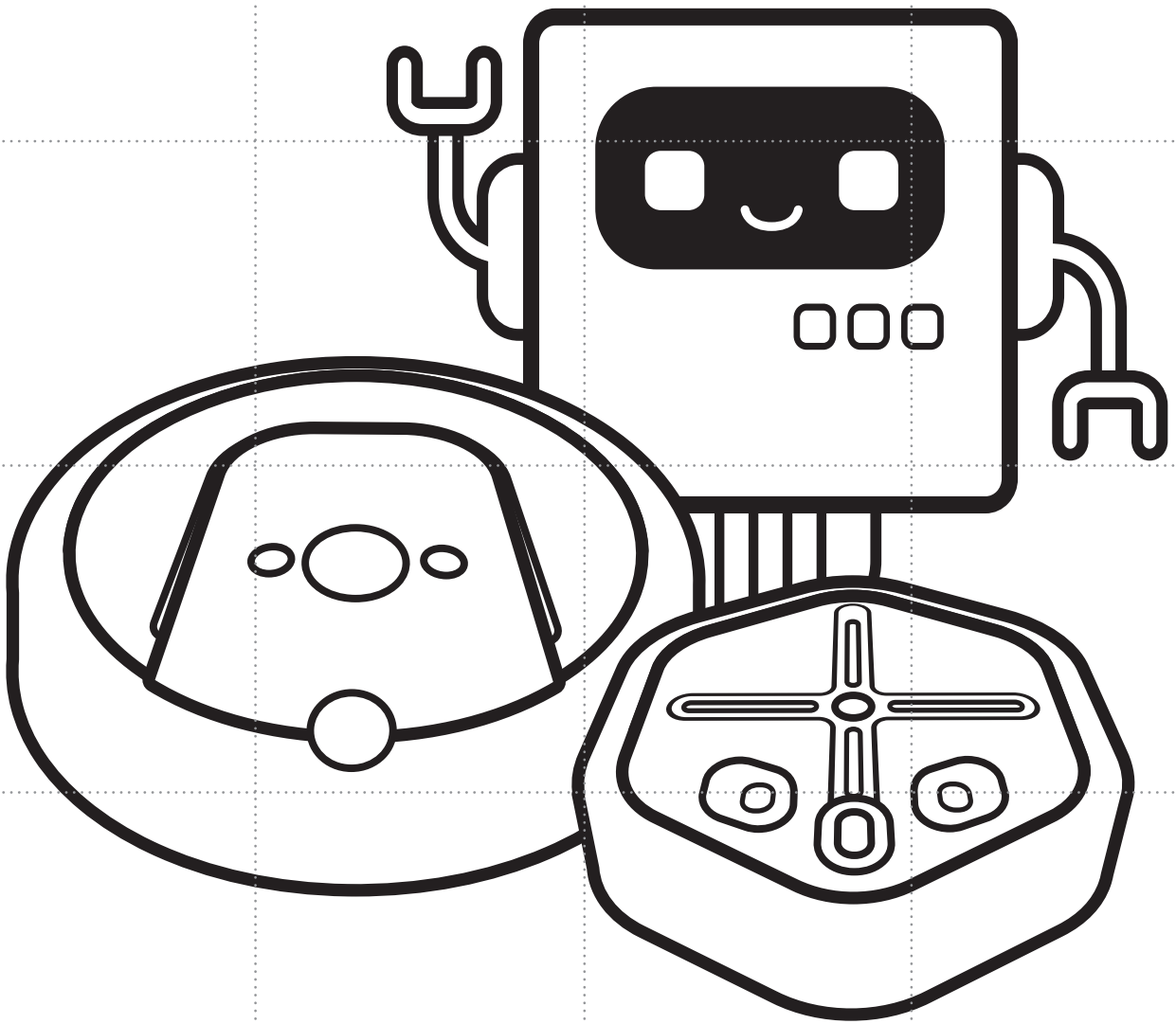
Learn more about the iRobot STEM Program:
Visit irobot.com/STEM



Robot Puzzle

Color this robot and have an adult help you cut on the dotted lines to make a robot puzzle!

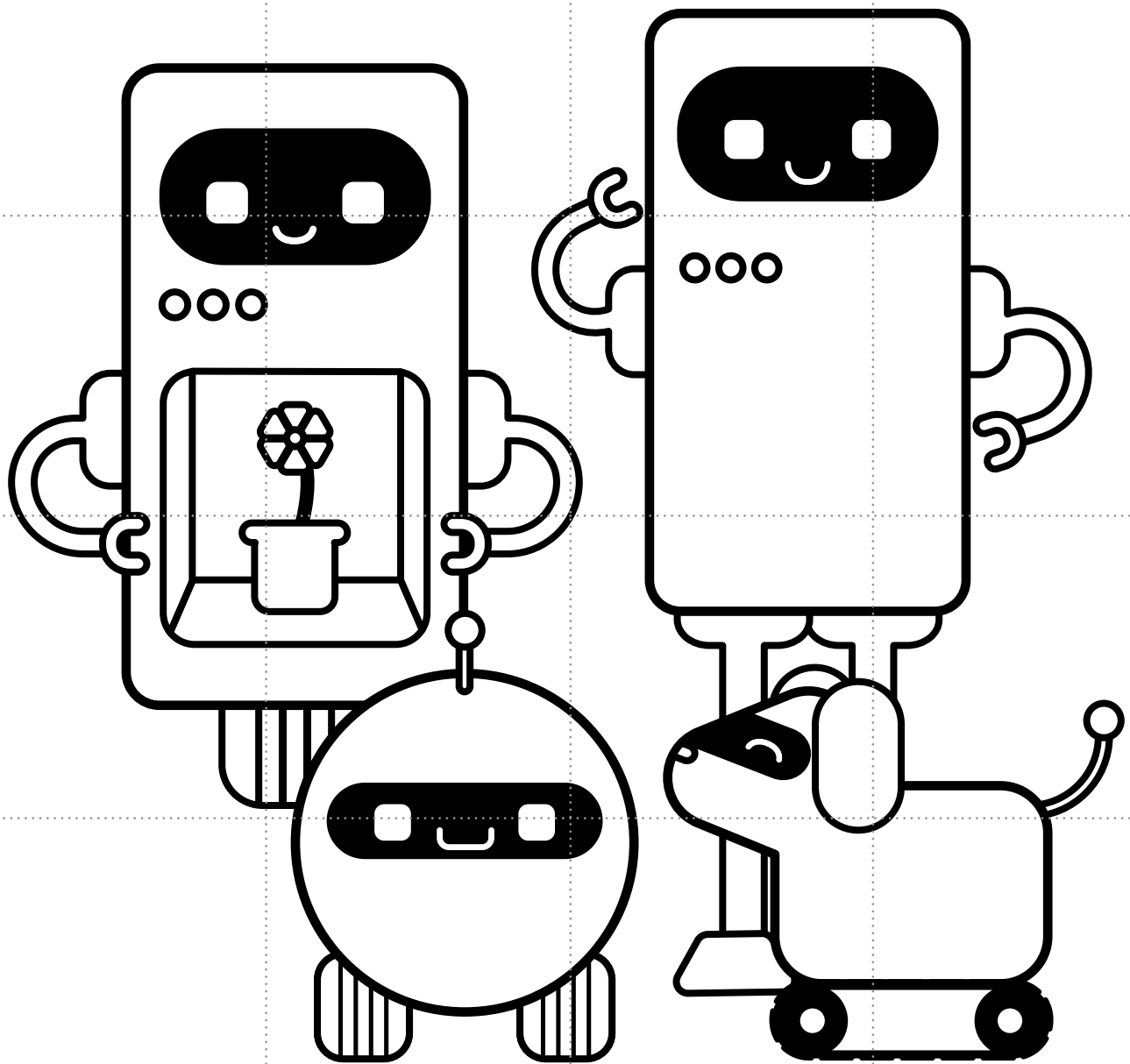
Always be careful when using scissors.



Robot Puzzle

Color these robots and have an adult help you cut on the dotted lines to make a robot puzzle!

If you print this activity book double-sided, now you'll have a robot puzzle with two sides!



STEM Word Search

See if you can find all the words!

F K M P O K U L L J J L Q Y B
A T A A G U B C J K P T U M M
U D I S C O V E R X U V X A E
G G A V R T I B V O E X N P S
S V I U I P P U D M C G D O M
T L E Z A S C I E N C E Y J L
E W H E E L S L N O B B P B S
M Z S K J D O D O A U O W C Z
W S A S L I N V E N T S D O Z
K Y M A T H N A F N T M W H F
Y X S R V R A P V R O O M B A
Z Y D H H A I M T H N Y O B L
T N C W G E A R D O S D T I G
K T T F D S Q S O R O B O T M
S B E O P F P Z D N Z Y R E E

WHEELS

MOTOR

STEM

ROBOT

SCIENCE

MATH

BUTTONS

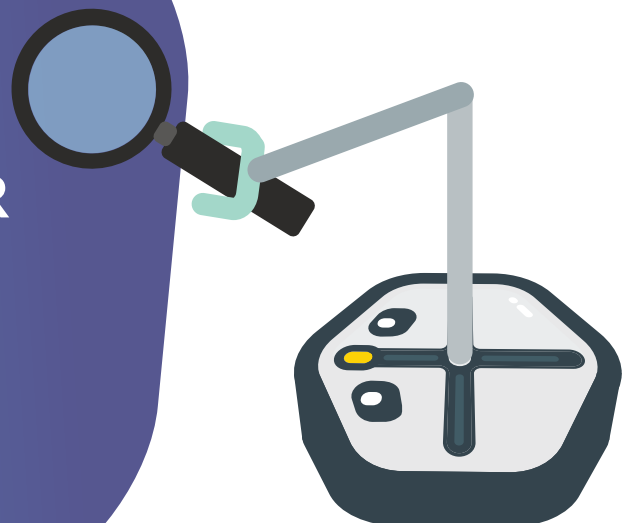
BUILD

DISCOVER

GEAR

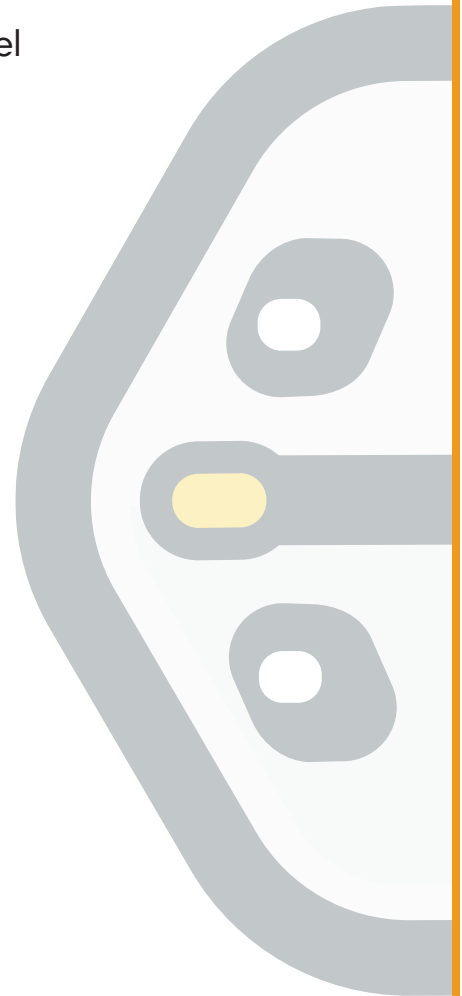
INVENT

ROOMBA

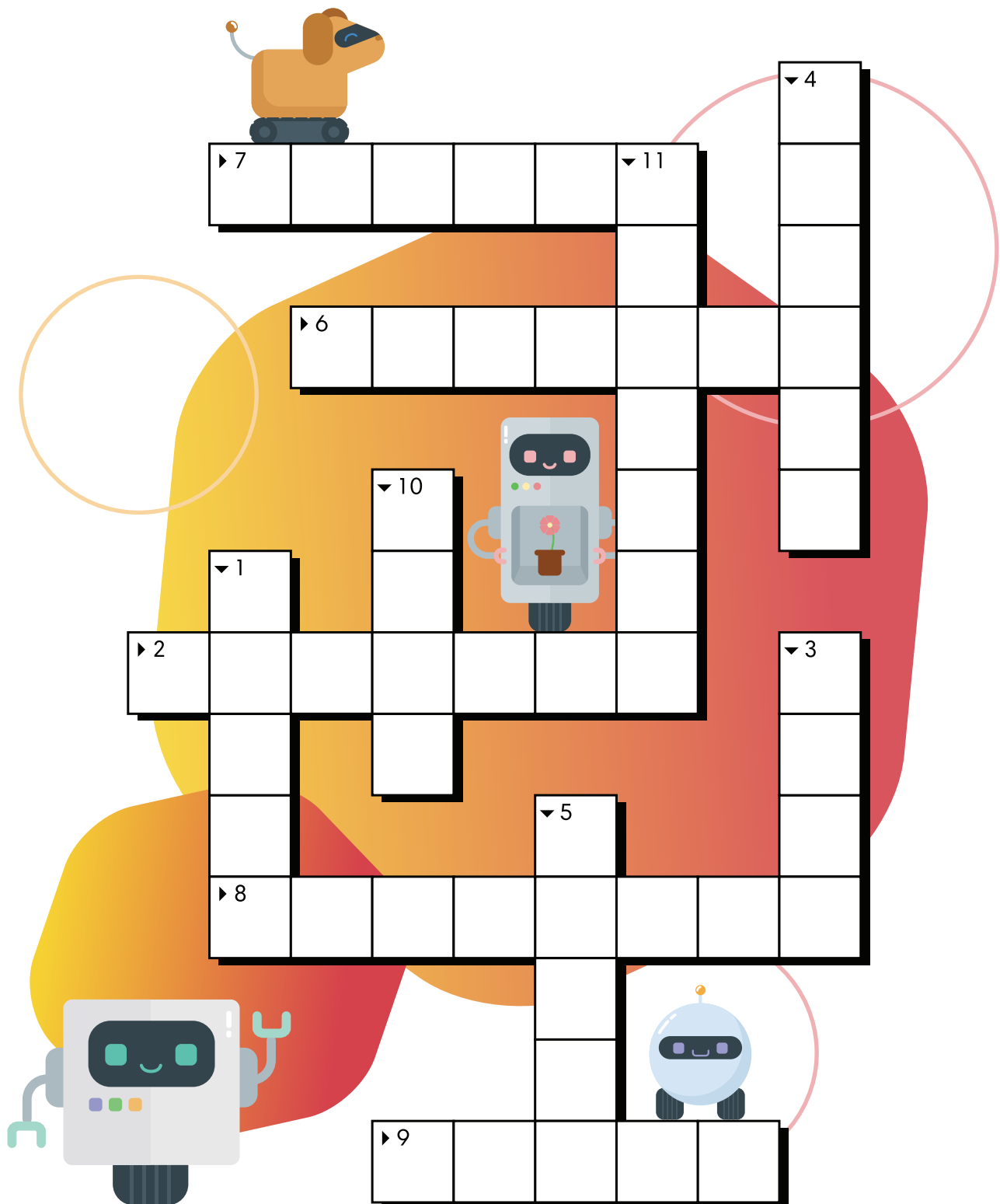


Robot Crossword Puzzle

1. To create new technology, you must _____ it (turn it from a design into a real, physical machine).
2. Some robots have _____ that you can push to turn them on, off or to make them do other things.
3. This toothed wheel engages another toothed wheel in order to transmit force to change speed.
Rhymes with "hear."
4. When you come up with an idea and then build it, you _____ something new.
5. A machine that can do things on its own is called a _____.
6. _____ is a school subject that includes biology, chemistry and physics.
7. _____ are one of the ways that robots, like cars, can move through the world.
8. You can _____ new things when you study science, technology, engineering and math.
9. The robot's _____ move the wheels, arms and grippers.
10. When you study _____, you will learn addition, subtraction, multiplication and division, the basis of engineering and most technology.
11. A robot uses _____ to feel its surroundings.



Robot Crossword Puzzle



Robot Scavenger Hunt

There are a lot of parts used in robots that you can also find around your home or school. Ask an adult to help and see how many objects you can find that have buttons or switches, motors, LEDs, something you can program and something you think is robotic. For a challenge, see if you can complete the Scavenger Hunt without using “computer” in any category! Can you find objects that fit into more than one category?

Something that has
buttons or switches

Something that has
a motor in it

Something robotic

Something that you
can program

Something with an
LED or indicator light



Roomba® Maze

Help the Roomba® robot vacuum get around all the furniture and find its way to the HomeBase® to charge.



Design a Robot

Imagine what sort of robot you would build! Draw your robot and then describe it.



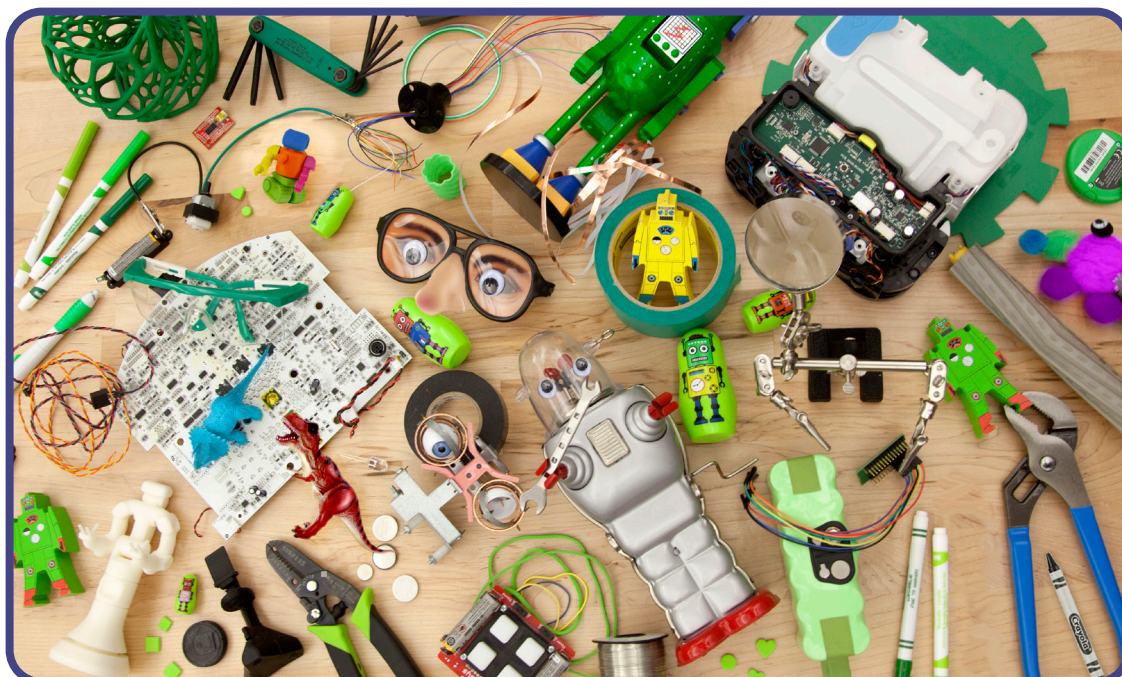
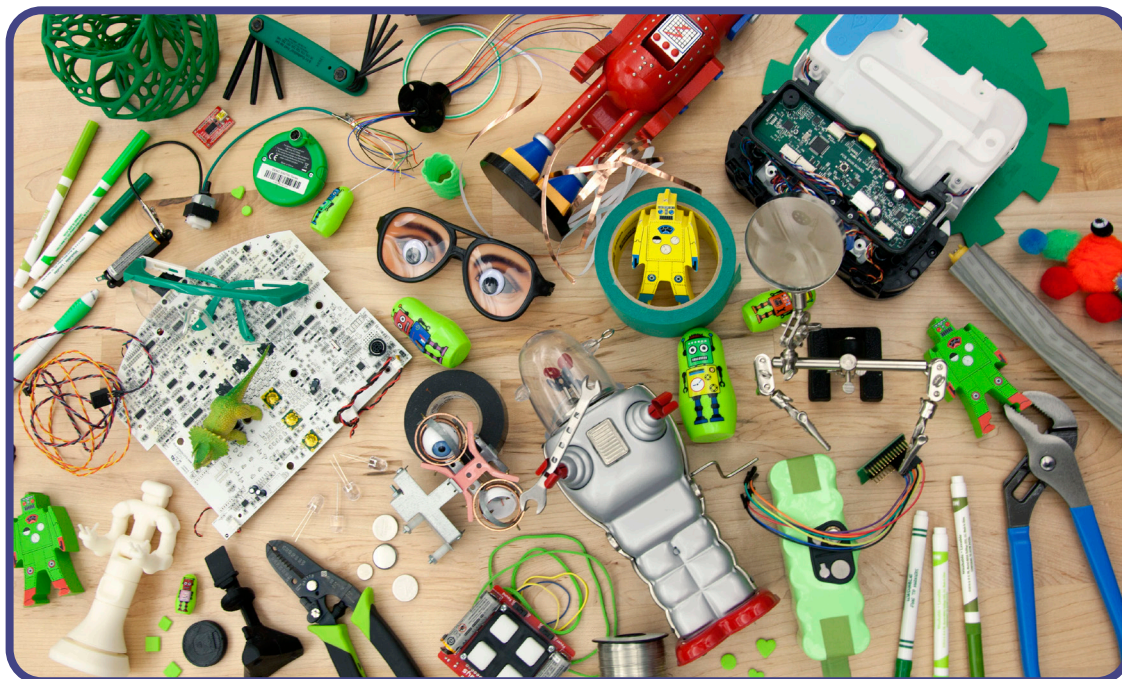
This robot was designed by:

My robot would be used to:

I would call it:

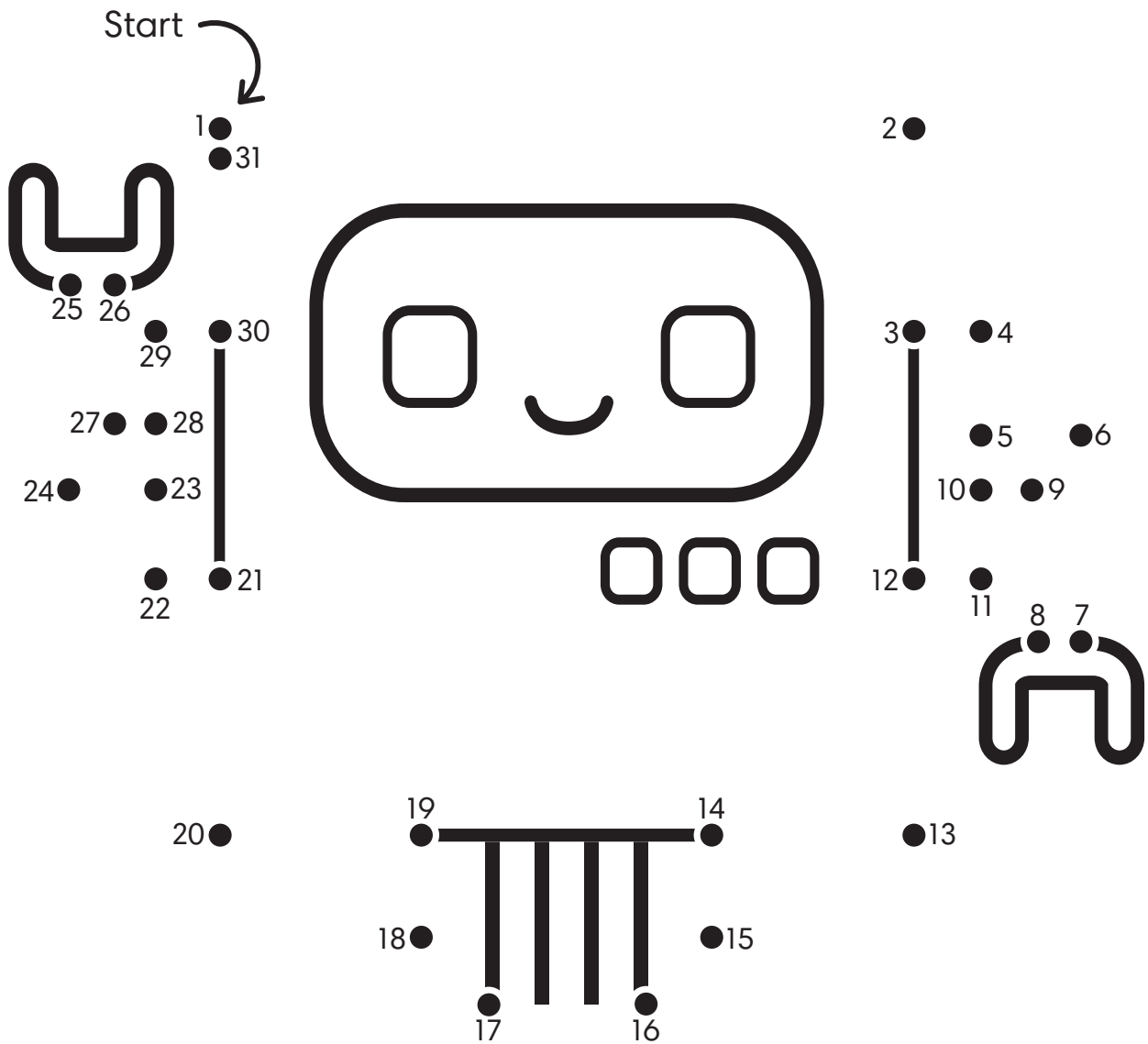
Spot the Differences

Can you find and circle the 10 differences between these two pictures of STEM supplies?



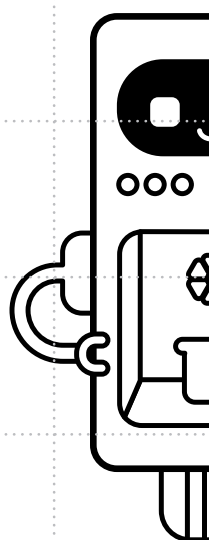
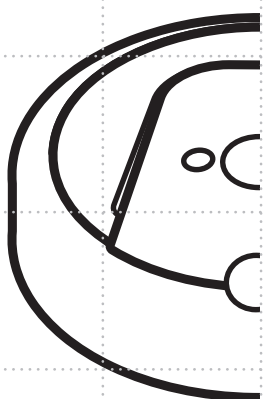
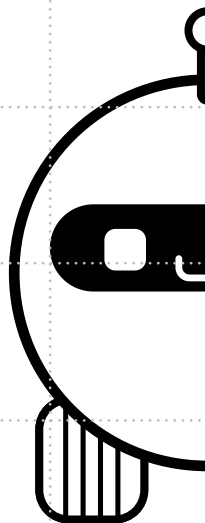
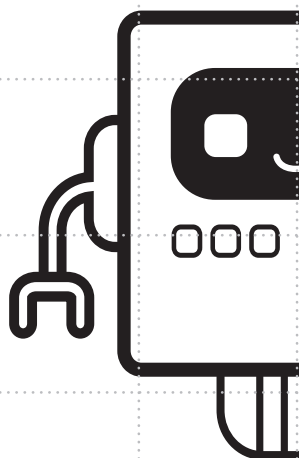
Connect the Dots

Complete the picture and color it in!



Complete the Robots

Can you draw the other half of each robot? Color them in after!



Silly Story

Pair up with a friend and have them give you a word to fill in for each blank without reading the story first, and then read the completed silly story out loud.

If I built my own robot, it would be _____ feet tall,
number

with a _____ and a _____

color part of the face

_____ . It would help me
adjective computer part

with _____ and would do a
chore

_____ job. It would have a lot of sensors so
adjective

it can _____ . My robot
one of the 5 senses plural noun

would also be able to _____, _____,

verb plural noun

and clean up after my pet . With

animal

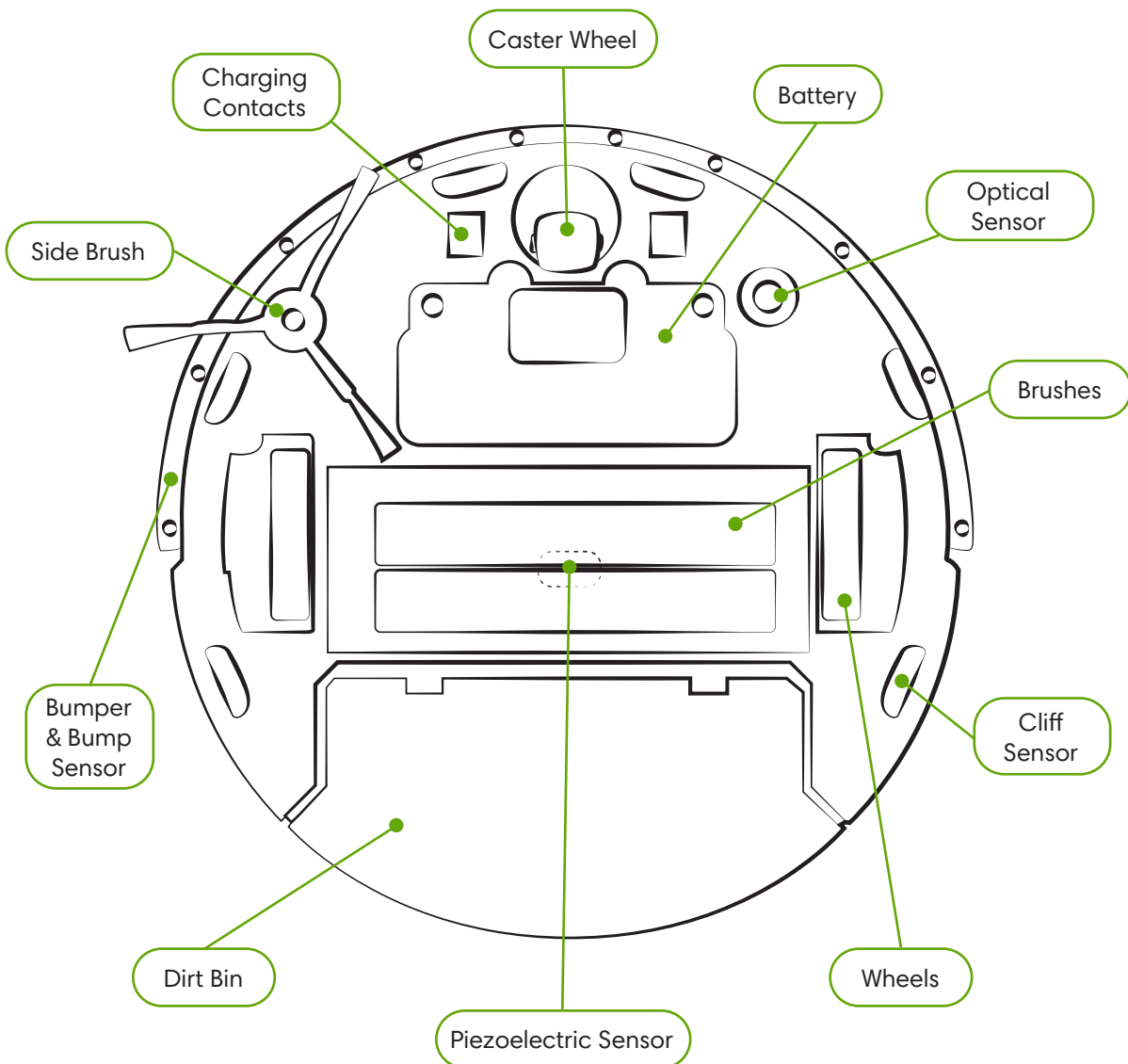
my _____ robot, I would have more free
adjective

time to go _____ with _____
fun activity name of a friend

instead of _____ . Robots and
chore

technology are really _____!
adjective

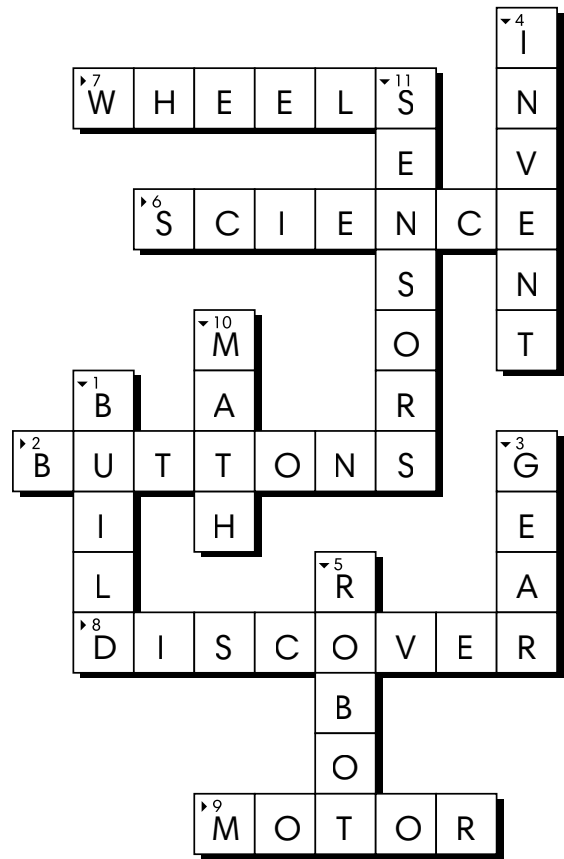
Anatomy of a Roomba®



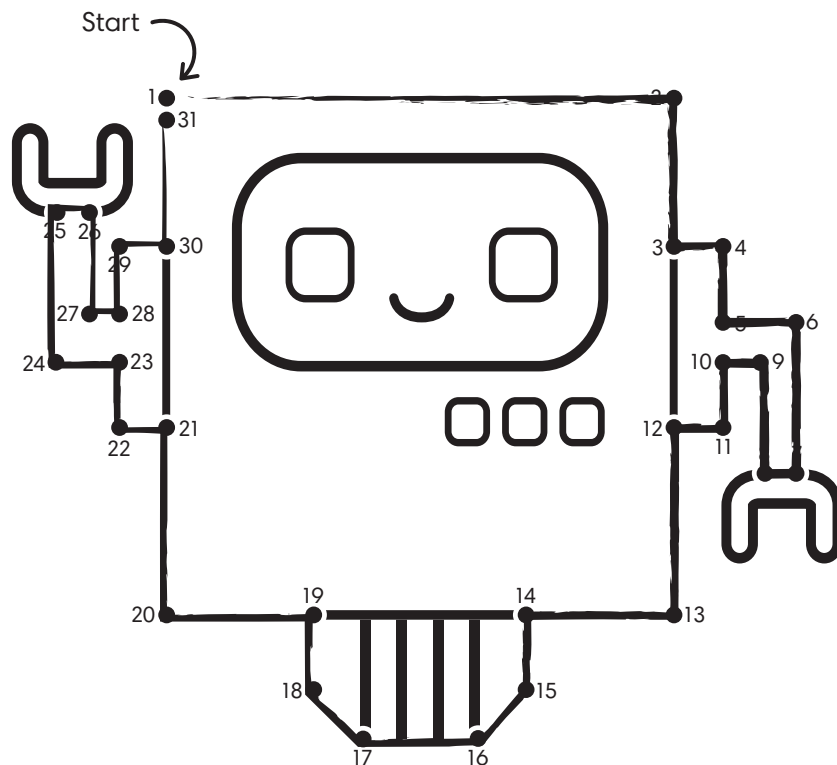
What does each part do?

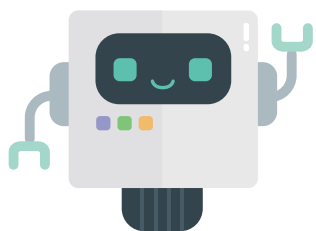
- Side Brush** Cleans dirt out of corners
- Charging Contacts** Connects the battery to the charger
- Caster Wheel** Balances the robot and senses motion
- Battery** Powers Roomba®
- Optical Sensor** Senses motion
- Brushes** Pick up dirt off the floor
- Cliff Sensor** Uses infrared to prevent falling off edges
- Wheels** Move Roomba®
- Piezoelectric Sensor** Senses dirt
- Dirt Bin** Collects the dirt
- Bumper & Bump Sensor** Senses objects in its path

Puzzle Solutions



Puzzle Solutions





Looking for more cool
stuff about robots?
Visit edu.irobot.com

iRobot Corporation | 8 Crosby Drive 10-2 | Bedford, MA | 01730

© 2009–2020 iRobot Corporation. All Rights Reserved.
iRobot is a registered trademark of iRobot Corporation. (00113.v2)

iRobot[™]
Education